

WHAT IS CLAIMED IS:

1. A method to identify an animal exposed to turkey astrovirus-2, comprising:
 - a) providing one or more physiological fluid samples from one or more
5 animals suspected of being exposed to turkey astrovirus-2;
 - b) contacting the one or more samples with an antigen of turkey
astrovirus-2; and
 - c) detecting or determining whether the one or more samples comprise
antibodies that are specific for the antigen of turkey astrovirus-2,
10 thereby identifying whether the animal was exposed to turkey
astrovirus-2.
2. A method to detect or determine antibodies to turkey astrovirus-2 in a
physiological fluid sample from an animal, comprising:
 - a) contacting one or more physiological fluid samples from one or more
15 animals with an antigen of turkey astrovirus-2; and
 - b) detecting or determining the presence or amount of antibodies that
are specific for the antigen of turkey astrovirus-2 in the one or more
samples.
- 20 3. The method of claim 1 or 2 wherein the physiological fluid sample is a
serum sample.
4. The method of claim 1 or 2 wherein the sample is from an avian.
- 25 5. The method of claim 4 wherein the avian is a turkey or a chicken.
6. The method of claim 4 wherein the avian is a breeder.
- 30 7. The method of claim 1 or 2 wherein the sample is from a mammal.

8. The method of claim 1 or 2 wherein the antigen is present in recombinant cells comprising an expression cassette encoding the antigen, or a lysate thereof.
- 5 9. The method of claim 8 wherein the recombinant cells are insect cells.
10. The method of claim 8 wherein the recombinant cells are fixed.
- 10 11. The method of claim 1 or 2 wherein the antigen is turkey astrovirus-2 capsid protein.
12. The method of claim 1 or 2 wherein the antigen is attached to a substrate.
- 15 13. The method of claim 12 wherein the substrate comprises a material selected from the group consisting of plastic, glass, celluloid, paper, and particulate materials.
14. The method of claim 12 wherein the substrate is a well, a plate, a dipstick, a bead, a membrane, a filter, a tube, or a dish.
- 20 15. The method of claim 1 or 2 wherein the antibodies that are specific for the antigen of turkey astrovirus-2 are detected with a detectable moiety or a moiety capable of detection.
- 25 16. The method of claim 15 wherein the moiety is an antibody.
17. The method of claim 16 wherein the antibody is an anti-IgG antibody, an anti-IgM antibody, an anti-IgY, an anti-IgA antibody, or any combination thereof.
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18. The method of claim 15 wherein the detectable moiety comprises an enzyme, a radionuclide, a fluorescent molecule, a chemiluminescent molecule, a chromophore, or a ligand.
- 5 19. The method of claim 16 wherein the antibody comprises an enzyme, a radionuclide, a fluorescent molecule, a chemiluminescent molecule, a chromophore, or a ligand.
20. The method of claim 1 or 2 wherein the antigen is not denatured.
- 10 21. The method of claim 1 or 2 wherein the antibodies that are specific for turkey astrovirus-2 are IgG or IgM antibodies.
- 15 22. The method of claim 1 or 2 wherein the detecting or determining comprises an assay selected from the group consisting of an enzyme-linked immunoassay, a radioimmunoassay, or a fluorescence immunoassay.
- 20 23. The method of claim 1 or 2 wherein the physiological fluid is blood, serum, bile, plasma, urine, tears, saliva, lymph, intestinal fluid, or nasal secretions.
24. The method of claim 1 or 2 wherein the physiological fluid is a supernatant of a tissue homogenate.
- 25 25. The method of claim 24 wherein the tissue is thymus, bursa, spleen, intestine, pancreas or kidney.
26. The method of claim 1 or 2 wherein the physiological fluid is from feces or intestinal contents.
- 30 27. A kit for the diagnosis of turkey astrovirus-2 infection, comprising a substrate and an antigen of turkey astrovirus-2.

28. The kit of claim 27 further comprising a positive control.
29. The kit of claim 27 further comprising a negative control.
- 5 30. The kit of claim 27 further comprising a diluent.
31. The kit of claim 27 further comprising an anti-avian antibody comprising a label.
- 10 32. The kit of claim 31 wherein the label is an enzyme, a radionuclide, a fluorescent molecule, a chemiluminescent molecule, a chromophore, or a ligand.
- 15 33. The kit of claim 27 wherein the antigen is present in recombinant cells comprising an expression cassette encoding the antigen, or a lysate thereof.
32. The kit of claim 26 further comprising instructions.

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